

REMARKS

The present application has been carefully studied and amended in view of the outstanding Office Action dated September 27, 2005, and the application is believed to be in condition for allowance for the following reasons.

A petition for a one-month extension of time accompanies this response together with the appropriate fee. Accordingly, the deadline for responding to the Office Action has been extended until January 27, 2006, and this response is therefore timely filed since it was deposited in the mail for First Class Delivery Service on the date certified on the front page hereof.

Status of claims

Claims 1 through 10 have been examined on the merits

Claims 1 to 10 are pending.

Claims 1, 6 and 7 have been amended.

Support for amended Claims 1 and 6 can be found at page 6, lines 29 to 32, and page 6, line 32 to page 7, line 2. Support for amended claim 7 can be found in page 6, line 33.

No new matter has therefore been introduced, and entry of the amended claims is respectfully requested.

The Office Action

Rejection under 35 U. S. C. § 103 (a)

Original claims 1-10 stand rejected under 35 U.S. C. 103 (a) over the combination of Frisch et al., US Patent 5,672,653 ("Frisch"), and Tsuboniwa et al, US

Published Patent Application 2002/0 188 070 ("Tsuboniwa"), for the reasons stated in the Action. Reconsideration is requested for the reasons stated below.

Frisch relates to aqueous anionic waterborne polyurethane dispersions made by reacting isocyanates with a polyol which comprises one or more hydroxy terminated polybutadiene resins. The polybutadiene resins may also be combined with a less hydrophobic polyol, such as a polyether or polyester polyol. See col. 1, lines 14 to 20. It is recognized in Frisch that the adhesion of the polyurethane dispersions described therein is still not entirely satisfactory; admixture of a further resin component, (acrylics) is proposed to cure this deficiency. See col. 2, lines 40 to 43.

Tsuboniwa is directed to a resin composition which comprises a resin (A) and a resin (B) as constituents, where the resin (A) is at least one of the components denoted by (A1) and (A2), (A1) being selected from the group consisting of polyester polyols, polyether polyols, polycarbonate polyols, polyurethane polyols, polyolefin polyols, and acrylic polyols, and (A2) being selected from the group consisting of polymers obtained by reacting component (A1) with a compound having at least one functional group selected from the group consisting of isocyanate, carboxyl, and epoxy groups, or compounds selected from the group consisting of dialkyl carbonates, cyclic carbonates, an alcohol, or a mixture of these, and resin (B) being a molecule having a sulfonium group and a propargyl group. See paragraph [0013]. The resin composition of Tsuboniwa is used as a constituent of a cationic electrodeposition coating. Resin (B) is used as a "shell resin", and resin (A) is used as a "core resin". See page 2, paragraph [0022], and page 4, paragraph [0075]. Tsuboniwa is silent as to mixtures of polyene polyols and polycarbonate polyols. While it is mentioned that polycarbonate polyols are

"excellent in hydrolysis resistance" ([0044]), this is also said of polyurethane polyols ([0048]), and it goes without saying that also acrylic polyols, and polyether polyols are excellent in hydrolysis resistance simply because there are no hydrolysable bonds in the polymer main chain in these compounds.

It has been found in the experiments that have led to the present invention that the desired combination of properties of good adhesion, insensitivity to light exposure and to hydrolysis, as well as a soft touch that can be tailored to the need can at the same time be realized by a polyurethane dispersion which comprises moieties derived from a polycarbonate polyol **A2**, of which a mass fraction of from 1 % to 20 % of the mass of **A2** is chemically bonded to the isocyanate functional prepolymer prepared by reaction of the first step from a polyene polyol **A1**, a polyfunctional isocyanate **B**, and a hydroxy acid **C**.

This object has been achieved by limiting the fraction of polycarbonate polyol that is chemically incorporated into the polyurethane to a mass fraction of from 1 % to 20 % of the mass of the polycarbonate polyol. This is effected by adding the polycarbonate polyol after the reaction of isocyanate, hydroxy acid, and polyene polyol, and carrying the reaction mixture into the aqueous phase and performing the chain extension. When mixtures of polyene polyol and other (Polyester) polyols are used in Frisch, these were added at the start, all together, and the presence of residual isocyanate groups at the end of the reaction (see col. 2, line 13 to 16) witnesses the complete consumption of all hydroxyl groups of the starting materials. Due to the stepwise addition of the present invention which is performed in the process defined in claim 6, full incorporation of the polyene polyol, and partial incorporation of the polycarbonate polyol can be warranted.

This extent of partial incorporation is now particularly pointed out and distinctly defined in amended claim 1.

Such composition and process of making thereof have not been made obvious by any of the references taken alone, or in combination with one another

It is therefore deemed that the present invention as now particularly pointed out and distinctly defined in amended claims 1, 6 and 7 and the remaining dependent claims is not rendered obvious by the cited art, and favorable reconsideration is respectfully requested.

In view of the above claim changes and the arguments in support of patentability, it is believed that the present application is in condition for allowance and early notice to that effect is respectfully requested.

Respectfully submitted,

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